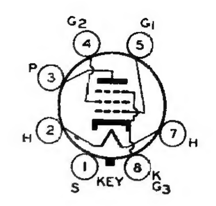


RCA-25A6

POWER-AMPLIFIER PENTODE



The 25A6 is a power-amplifier pentode of the All-Metal type for use in the output stage of radio receivers, especially those of the "d-c power line" or "universal" type. In such applications, the 25A6 is capable of handling relatively large audio power.

CHARACTERISTICS

Heater Voltage (A. C. or D. C.)			25	Volts
Heater Current			0.3	Ampere
Plate Voltage	95	135	180 *max.*	Volts
Screen Voltage (Grid No. 2)	95	135	135 *max.*	Volts
Grid Voltage (Grid No. 1)	−15	−20	−20	Volts
Plate Current	20	37	38	Milliamperes
Screen Current	4	8	7.5	Milliamperes
Plate Resistance (Approximate)	45000	35000	40000	Ohms
Amplification Factor (Approx.)	90	85	100	
Transconductance	2000	2450	2500	Micromhos
Load Resistance	4500	4000	5000	Ohms
Self-Bias Resistor	625	440	440	Ohms
Power Output	0.9*	2†	2.75‡	Watts
Base				Small Wafer Octal 7-Pin

* 11% total harmonic distortion.
† 9% total harmonic distortion.
‡ 10% total harmonic distortion.

INSTALLATION

The **base** pins of the 25A6 fit the standard octal socket which may be installed to hold the tube in any position.

The 25-volt **heater** of the 25A6 is designed to operate under the normal conditions of line-voltage variation without materially affecting the performance or serviceability of this tube. For operation of the 25A6 in series with the heaters of other types having 0.3-ampere rating, the current in the heater circuit should be adjusted to 0.3 ampere for the normal supply voltage.

In a series-heater circuit of the "d-c power line" type employing several 0.3-ampere (6.3-volt) types and one or two 25A6's, the heaters of the 25A6's should be placed on the positive side of the line. Under these conditions, heater-cathode voltage of the 25A6 must not exceed the value given under **cathode.** In a series-heater circuit of the "universal" type employing rectifier tube 25Z6, one or two 25A6's, and several 0.3-ampere (6.3-volt) types, it is recommended that the heater(s) of the 25A6('s) be placed in the circuit so that the higher values of heater-cathode bias will be impressed on the 25A6('s) rather than on the 6.3-volt types. This is accomplished by arranging the 25A6('s) on the side of the supply line which is connected to the cathode of the rectifier, i.e., the positive terminal of the rectified voltage supply. Between this side of the line and the 25A6('s), any necessary auxiliary resistance and the heater of the 25Z6 are connected in series.

The **cathode** circuit in "d-c power line" or "universal" receivers is tied in either directly or through biasing resistors to the negative side of the d-c plate supply which is furnished either by the d-c power line or by the a-c line by means of a rectifier. The potential difference thus introduced between heater and cathode of the 25A6 should not exceed 90 volts d.c., as measured between the negative heater terminal and the cathode.

APPLICATION

As a power amplifier (Class A), the 25A6 is recommended for use either singly or in push-pull combination in the power output stages of "d-c power line" and "universal" receivers. Recommended operating conditions are given under CHARACTERISTICS.

The self-bias resistor should be shunted by a suitable filter network to avoid degenerative effects at low audio frequencies. The use of two 25A6's in push-pull eliminates the necessity for shunting the resistor. The self-bias resistor for two 25A6's in the same stage is approximately one-half the value given for single-tube operation.

The total d-c resistance in the grid circuit should not exceed 0.5 megohm with self-bias; or 0.5 megohm for the 95-volt condition and 50000 ohms for the 135-volt and 180-volt conditions with fixed bias.

An additional plate family for this type is shown under type 43.

